PABX

Telephone Switch

User's Manual

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1. INTRODUCTION

This PABX is designed to provide a low cost professional telephone switching system. Up to 8 external telephone lines and up to 128 internal extensions can be connected.

1.1 MAIN PARTS

Base (CPU) Board: Has row sockets, CPU and some elements..
Power Supply Card: It is connect with base (CPU) board by soft wire, adopt the high-frequency switch transformer can supply the stable voltage from 88V to 260V, adapt the power of different countries. In case of power failure, you can connect external battery to keep the unit working.
Audio Card: There are have Audio Input / Output ports, Monitor port and PC port.
CO Line Card: Have 8 CO line ports in each CO line card with the contra-polar detect function and 3kv arresters protection.
Extension Card: Have 8 Extension ports in each Extension line card, use RJ11 socket.

1.2 MAIN FEATURES

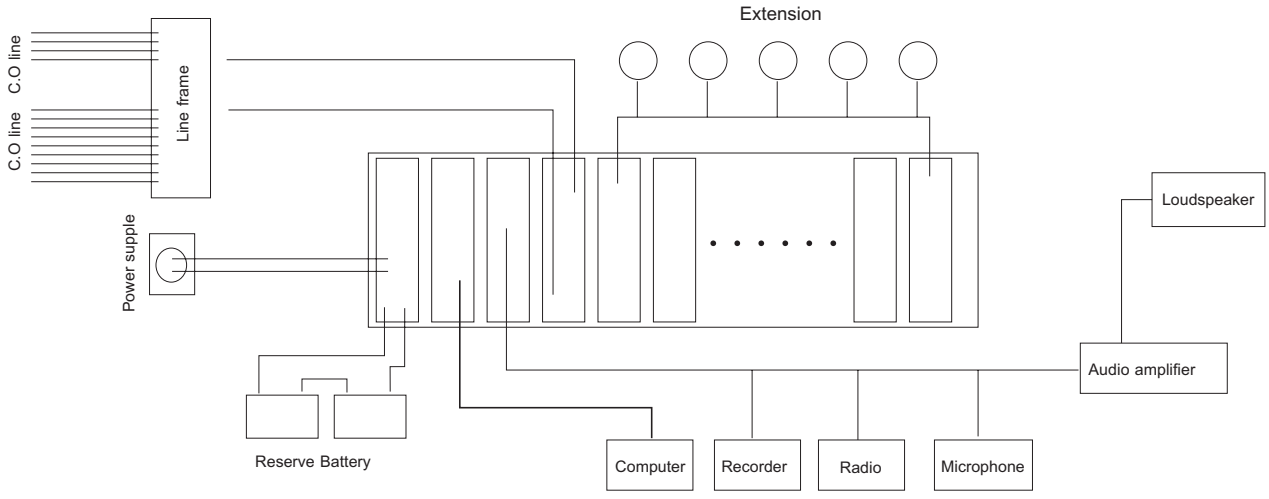
Operator Attendant Mode -- allows an operator or one designated extension to answer all incoming calls.
Auto-Attendant Mode -- allows the external caller to dial the desired extension or operator directly according guide of OGM (Out Going Message).
Call Transfer-- allows the extension to transfer an external call to another extension.
Call Pick Up -- allows a non ringing extension to answer a call to another extension.
Music on Hold with Internal or External Source Option.
External CO Line Ringing Assignment -- any extension(s) can be assigned to ring, when there is an external call.
Change Extension Number -- any extension can be allocated any extension number in the rang from 100 to 999.
Call Restriction -- controls what numbers an extension can dial.
3 Parties Conference -- 2 extensions can speak to an external caller at the same time.
Internal Call -- call from one extension to another (free of charge)
15 Communication Paths
Call Forwarding -- user can program their extension to forward an external or internal call to another telephone extension.
External Audio Input & Output -- The user can Input or Output the broadcast or other external Audio sources.
CO Line Appointment -- the system will notice the extension user automatically once there is has free CO line.
Voice Recorder (optional)
Computer with Call Accounting Package (optional)

1.3 EXTERNAL AND INTERNAL CALLER ID

This PABX is capable of receiving external FSK or DTMF Caller ID send from the local telephone company. In order for the Caller ID to work, the user must subscribe to the Local Telephone Company for the service.
Internal Caller ID is available within all of internal extensions.
External Calls with telephone number of caller transferred to the internal extensions telephone. The internal extension telephone must have DTMF Caller ID detection capabilities. If the external call is transferred to another internal extension, the Caller ID will be transferred to the new extension too.

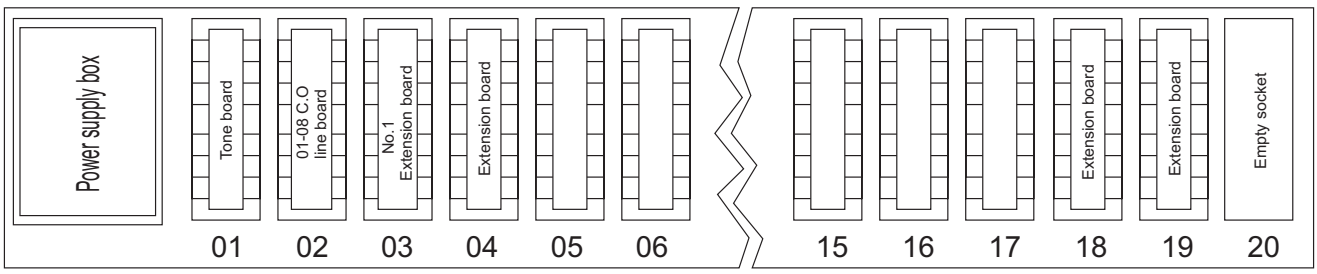
2 SYSTEM EQUIPMENT

System Equipment include the PABX main parts and outer equipments such as Battery, Voice Recorder and Computer etc. The equipments are as below figure:



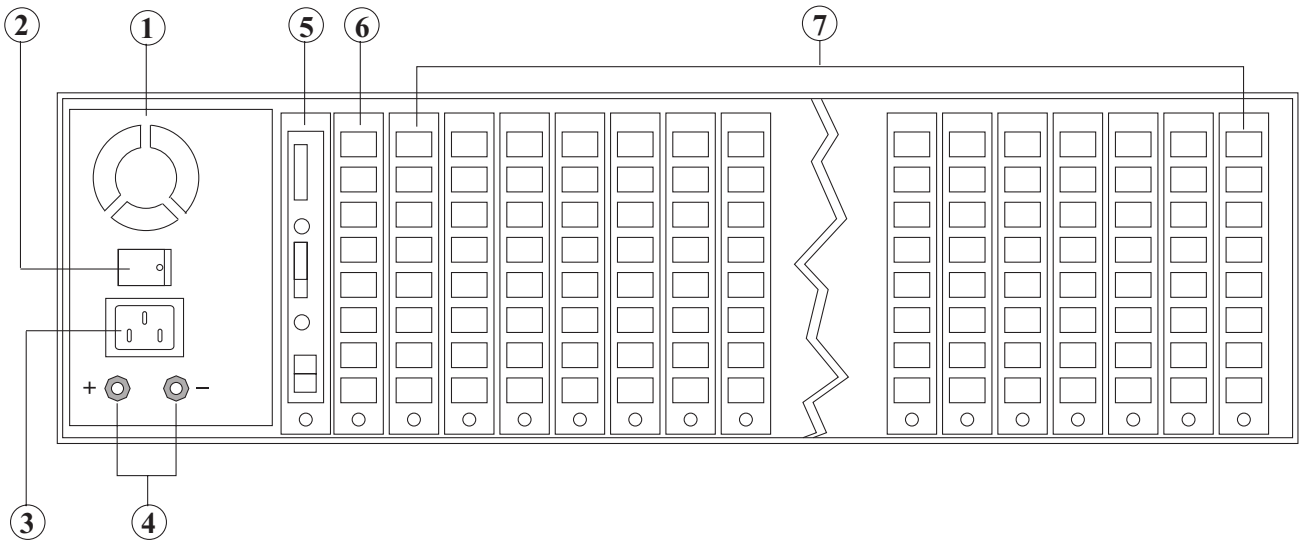
2.1 CLASSIFY FOR SYSTEM EQUIPMENT

EXTERNAL LINES = 8 INTERNAL LINES = 128



8128 Structure

2.2 SYSTEM STRUCTURE



PART NAME:

1. Ventilate hole for heat dissipating
2. Power switch
3. Power sockets
4. Connected pole for external battery, the left is positive and the right is negative.
5. Audio Card
6. CO line card port 1 to port 8
7. Extension card

POINTS OF ATTENTION WHEN CONNECTING:

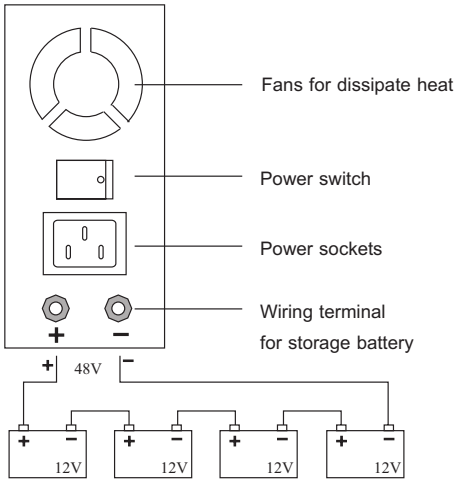
Be sure the power is OFF before installation, pull out the cards straightly, please insert the cards and screw on. The system can automatic detect equipment, you could change the cards freely, the system can work normally even if you don't insert Extension Cards by order.

Please reconnect with power after finish installation, make sure the indicate light work normally, if has any abnormity, you should disconnect the power supply to check again.

2.2.1 POWER BOARD

The Power Board is adopt high frequency power switch with power range is between 88V to 260V. In case of power failure or the local voltage lower than 88V, the back-up battery can offer the power to keep the unit working normally.

The battery is charged automatically after power is restore to ensure the communication continues. The system can work at least 7 hours when power failure by using 7A reserve battery; if adopt 12A battery it can work at least 12 hours, such analogy. Voltage of battery is 48V, it can up to 50V after full charge. Normally, the battery is 12V each unit, you can connect with FOUR batteries (see right diagram) Be sure the connection of battery is correct to avoid PABX or battery is damaged.



2.2.2 AUDIO CARD

The Audio Card is take charge to generate various of signal tone, i.g.Dial tone, Ringing tone,Busy tone, Verify tone and OGM, etc.

It also charges some accessorial functions. i.g. PC network,Voice Recording, paging, Audio Input / Output.

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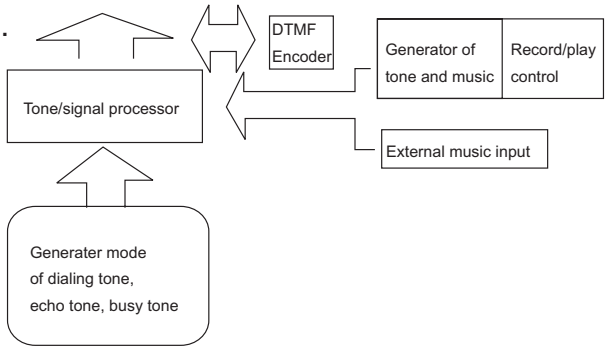
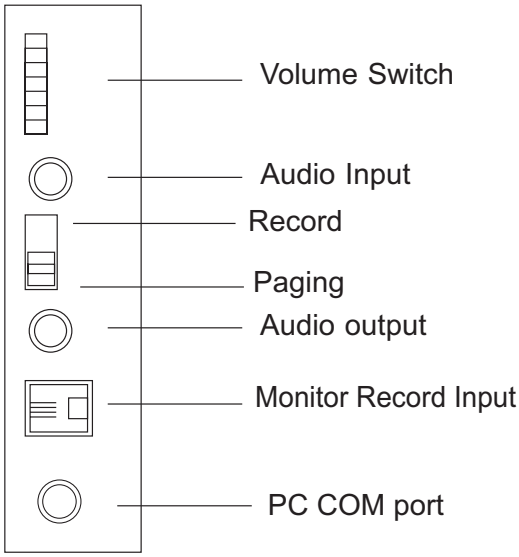
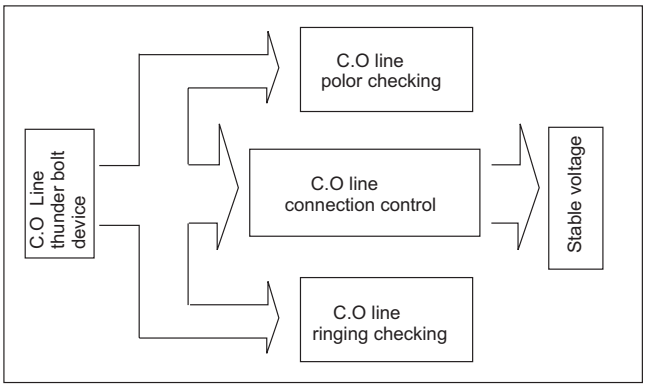
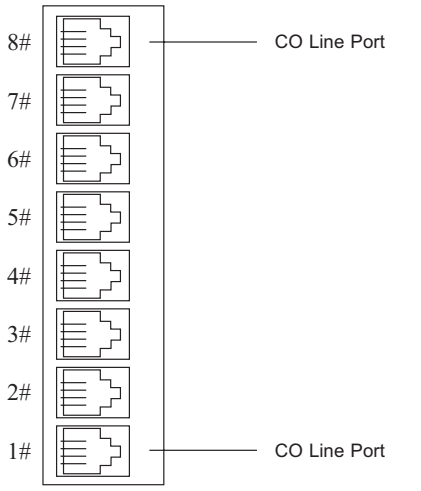




2.2.3 CO LINE CARD

The CO line card is take charge to Ringing Detect, Control-polor Detecting, Arresters, Audio Amplifying, CO line ON/OFF,etc.

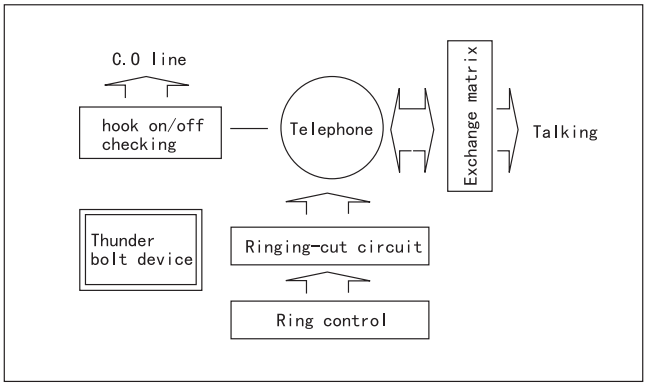


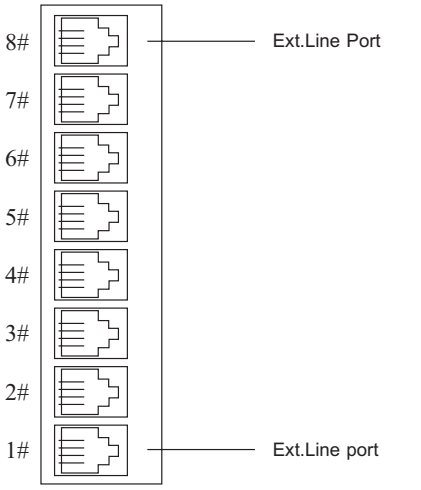


(Arrange CO Line number from bottom to top)

2.2.4 EXTENSION CARD

Extension card is the main part of unit.
It have hook-switch ON / OFF detecting,
Ringing Control,ringing-cut circuits and talking matrix.





(Arrange Ext.Line number from bottom to top)

The user need only add or reduce the CO line or Ext.line card to increase or decrease the capacity, suggest install expansion cards by order from LEFT to RIGHT to keep continuity of the default numbers.

You must to OFF the power supply when add or reduce the expansion cards to avoid the unit can't work normally.

3 TECHNICAL INDEX

Capacity: CO Lines = 8

Extensions = 8 to 128

Exterior sockets: Extension / C.O line Port, PC network Port, Audio Input/ Output Port, External Music Port, Voice Recorder Port, Broadcast Port

Communication Channels: 15

Transmission Attributes: Extension to Extension ≤1.5dB;

Extension to Trunk line ≤2.0dB;

Ringing Current = 65V/50Hz;

Feeding Curren = 48V-60V/25mA;

Relative Unbalance Against Ground: 300Hz-600Hz ≥ 40dB;

600Hz-3400Hz ≥ 46dB;

Dialing Mode: DTMF

Receiving Frequency:

Signal Tone:

High frequency group / Low frequency group		H1	H2	H3
		1209	1336	1477
L1	697	1	2	3
L2	770	4	5	6
L3	852	7	8	9
L4	941	※	0	#

CO Line: Tone from Local Telephone Company;

Internal Dialing Tone: 450Hz, Continuous Square Wave;

Internal Ringing Tone: 450Hz, square wave, 1 second on and 4 seconds off;

Internal Busy Tone: 450Hz, square wave, 0.3 second on, 0.3 second off;

Internal Verify Tone: 450Hz, square wave, 1 second on;

Internal Error Tone: 450Hz, square wave, 0.3 second on, 0.3 second off ;

Power Supply: AC220V±10% Limited Range = 88~260V

Power consumption: ≤50VA

Audio Input Voltage level = 1 Vrms Impedance =10KΩ

Audio Output Voltage level = 200 Vrms Impedance = 1KΩ

Voltage of Back-up Battery = 48V

Charge Current≤100mA

Voltage of Voice Recorder Control: 48V/10V

In Point Environment: Temperature: 32F-104F(0°C-40°C);

Relative humidity ≤90%

4 SYSTEM PROGRAMMING

4.1 GENERAL PROGRAMMING INSTRUCTIONS

4.1.1 This system has a default factory setting. If any of the programming needs to be changed, the user can change the setting by system programming.

4.1.2 System programming can only be performed from extension 801;

4.1.3 The user should input the password to enter the system programming.
If extension 801 is in Direct External Dial Mode, the user must dial * before dial *01 to enter the password.

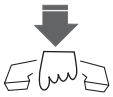
4.1.4 Press * to start programming a system setting.
Enter the code and parameters for changing a system setting.
Press # to complete the programming of a system setting.
To correct a wrong system setting, press * to do the programming of a system setting again. There is no need to hang up the telephone.

4.1.5 After programming a system setting, a long confirmation tone is sent indicates that the system setting has been successful.
A series of short "Beeps" tone is sent indicates that the system setting was unsuccessful. Please check or reset the unit.

4.1.6 EXPLANATION OF DIAGRAM

Lift up Receiver(Pick Up)

Tap the Hook-Switch(Flash)

 Place Handset(Hang Up)

Listening Audio

Button(Dialing)

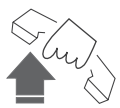
Indicative abstract

4.2 INPUT SYSTEM PASSWORD

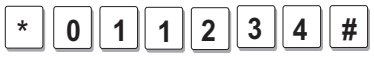
Format: *** 01 ABCD #**

ABCD = system password.

Description: Allows the user to input the password to enter system programming, suppose the password is 1234 .

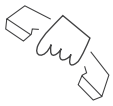


Pick up 801



Input * 01 1234 #

Du



programming

If the user has entered into the programming mode by password, the user should not hang up extension 801 until all the desired system settings have been modified, otherwise the user has to input the password again to enter into the programming mode.

4.3 CHANGE THE PASSWORD

Format: *** 02 ABCD #**

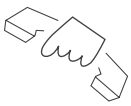
ABCD = new password (Default password = 1234)

Example, you want to change the password to 0000 :

Pick up 801(unlock)

Input * 0 2 0 0 0 0 #

Du



Hang up

Example: The default password is 1234 We suggest to change the password before using the PABX.

If the user wants to change the password to 5678, the user should input * 01 1 2 3 4 # to enter the system, then input * 02 5 6 7 8 # to change the password to 5 6 7 8.

Suppose the user needs to change the password again to 1111, the user should input * 01 5 6 7 8 # to enter the system, then input * 02 1111 # to change the password to 1111.

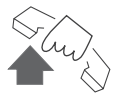
4.4 EXTERNAL (CO) LINE CONNECTION ASSIGNMENT

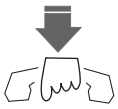
Format: *** 3 1 a b c d e f g h #**

a b c d e f g h = CO Line ports that will be connected;

Description: Assigns which external (CO) line is connected to which CO line port.

Example : The company has three external CO lines. To connect external CO line 1 to CO line port number 1, CO line 2 to port 2 and CO line 3 to port 4.





Pick up 801(unlock) Input * 31 1 2 4 # Du Hang up

* Normally the order to select the CO line ports is from port one to port two, port three ⋯ one by one. For some situations, the user could ignore one port and jump from port three to port four.

* For the CO lines, it is recommended to connect the incoming CO lines to the high-frequently-used CO port lines and the outgoing CO lines to the low position CO port lines.

* If no CO lines are connected and the unit is used as an intercom system then input * 31 #.

4.5. EXTERNAL (CO) LINE RINGING SELECTION

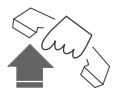
Format: *** 1 mn abcd #**

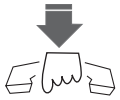
mn = CO Line port number (01-08);

abcd = last digit of extension port

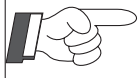
Description: The user can select which extension(s) must ring, when there is an incoming call on an external CO line.

Example, Assign Ext. 802 to ring when external call on CO1, Ext. 803 and Ext.806 to ring when external call on CO Line 3.





Pick up 801(unlock) Input * 1 01 2 # Du Input * 1 03 3 6 # Du Hang up



* The CO line port must be in operator mode

* The ringing extensions can only be assigned among extensions 801 to 808

4.6 RESTRICT THE LINE'S RIGHT TO USE

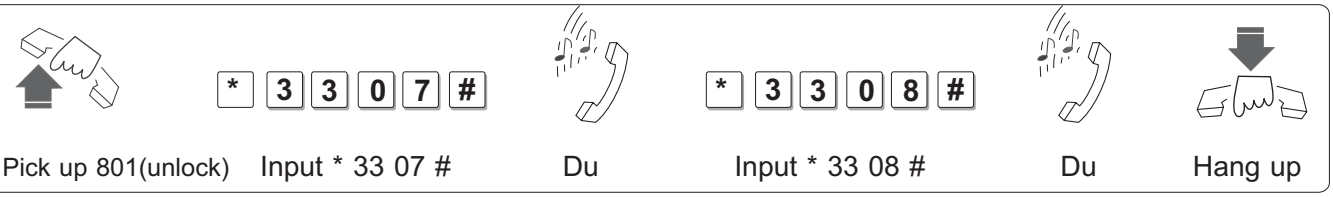
4. 6. 1 ASSIGN CERTAIN CO LINE TO RECEIVE CALLS ONLY

Format: *** 3 3 mn #**

mn = CO Line port (01-08)

Description: Even if this CO line is free it is do not allowed to make outgoing calls to reduce some important CO lines are occupied frequency.

Example: CO.8 and CO.7 are high frequency use for external calls in, you can assign both of these CO lines are allowed to receive calls only.



To clear this programming you can re-connect CO lines again (4.4)

4. 6. 2 ASSIGN CO LINE TO BE EXCLUSIVELY ACCESSED BY AUTHORIZED EXTENSION(S). FOR OUTGOING CALLS

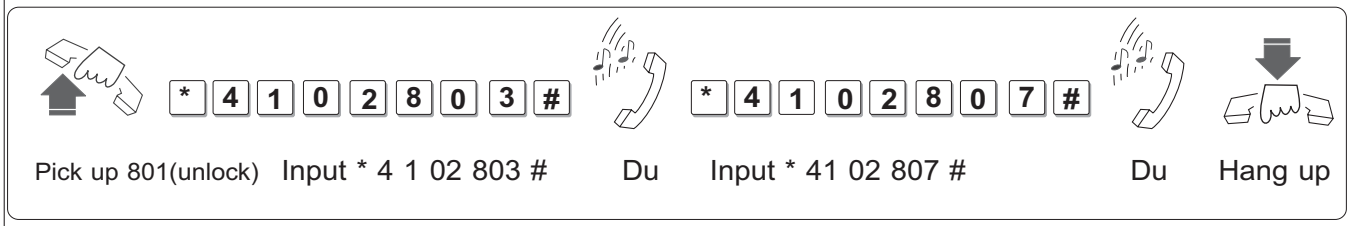
Format: *** 4 1 M N abc #**

MN = CO line port number (01~08),

abc = Extension number.

Description: Assign CO line to be exclusively accessed by authorized extension(s) for outgoing calls. Even if the CO line is free, other extensions can not access this CO line for outgoing calls.

Example: Assign CO line 2 to be exclusively accessed by Ext. 803 and Ext. 807:



You can use batch way to speed up programming by change variable only.

In this example extension number abc = variable.

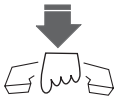
Maximum allow have four authorized extensions for each CO Line;

4. 6. 3 CLEAR PROGRAMMING OF PARAGRAPH 4.6.2

Format: *** 4 1 M N #**

MN = CO line port number (01-08);

Example: Clear CO line 2 as exclusively CO lines for authorized extensions



Pick up 801(unlock) Input * 4 1 02 #; Du Hang up

4.6.4 ASSIGN EXTENSION(S) TO ACCESS ONLY A DESIGNATED CO LINE FOR OUTGOING CALLS

Format: *** 4 2 MN abc #**

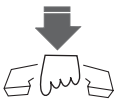
MN = CO line port number (01-08);

abc = Extension number;

Description: Assign specify extension to use only a designated CO line for external calls.

Even if other CO lines are free, this extension can not access them for external calls

Example: To assign extension 806 to use CO line 2 only.



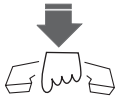
Pick up 801(unlock) Input * 4 2 02 806 # Du Hang up

4.6.5 CLEAR PROGRAMMING OF PARAGRAPH 4.6.4

Format: *** 4 2 abc #**

abc = Extension number

Example: Clear extension 806 is allowed to use CO Line 2 only.



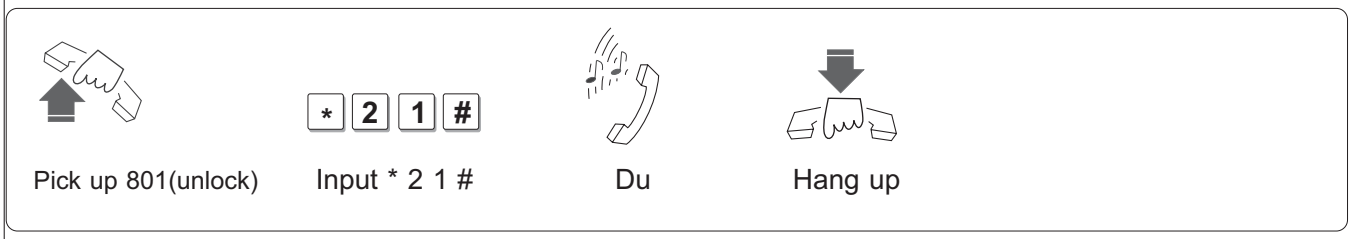
Pick up 801(unlock) Input * 4 2 806 # Du Hang up

4.7 ATTENDANT MODE ASSIGNMENT

4.7.1 OPERATOR ATTENDANT ASSIGNMENT (DEFAULT SETTING)

Format: *** 2 1 #**

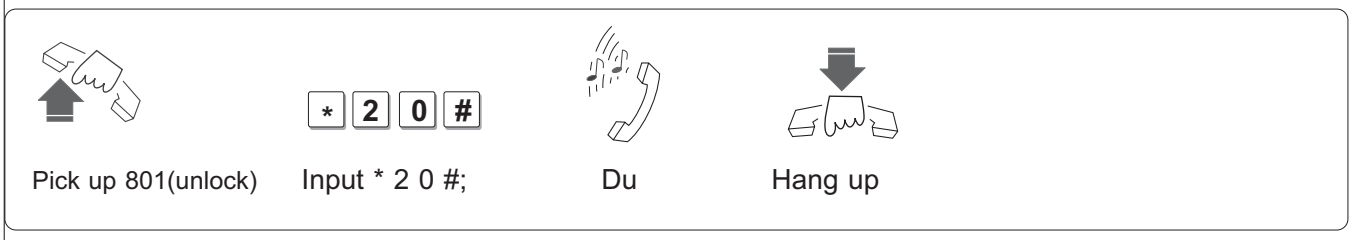
Description: Specific ringing extension will ring when CO line is received, pick up the extension to answer the call.



4.7.2 AUTO ATTENDANT ASSIGNMENT WITH OUTGOING MESSAGE(OGM)

Format: *** 20 #**

Description: In this mode, the external caller will hear the Out Going Message recording. None of the extension will ring.



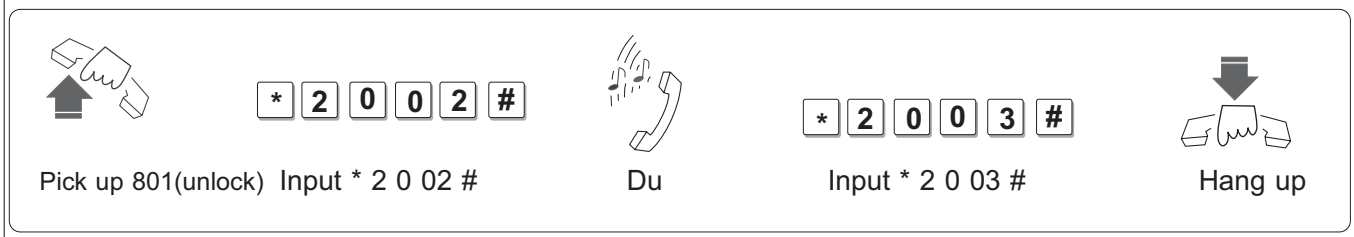
4.7. 3 AUTO ATTENDANT ASSIGNMENT WITH OGM FOR DESIGNATED CO LINES

Format: *** 2 0 mn #**

mn = CO line port number(01-08)

Description: Assign Auto-attendant mode for certain CO lines, while other CO lines remain in Operator-attendant Mode.

Example: Assign CO 2 and CO 3 to Auto-attendan, and assign remain CO lines to Operator attendant mode.



Suggest to assign all CO lines to Operator-attendant mode before this assignment (4.7.3) to avoid conflicts with previous setting.

4.7. 4 RECORD THE OUT GOING MESSAGE (OGM)

Format: *** 2 2 N #**

N = 1 = OGM 1 = Maximum 12 seconds

N = 2 = OGM 2 = Maximum 4 seconds

N = 3 = OGM 3 = Maximum 4 seconds

Description: Allows the extension assigned as an operator or manager to record up to 3 outgoing voice message. This message is played when a external caller accesses the DISA feature.

EXAMPLE:

OGM 1: "This is A company, For the sales division, press 812. For the service division, press 824. To call operator, press 0 "

Description: The unit will answer the call and play an out going message. The calling party has the option to dial the number of the internal extension directly e.g.803 or dial 0 for the operator.

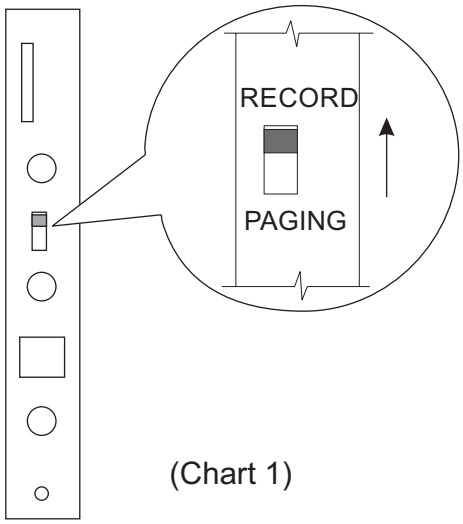
OGM 2: " We are sorry. The line is currently busy, you could dial other extension number, if you want to call the operator, press 0 "

Description: The unit will play out going message in the case of desired extension is busy. If the external caller does not enter any correct extension number within a certain period, then the call will be released.

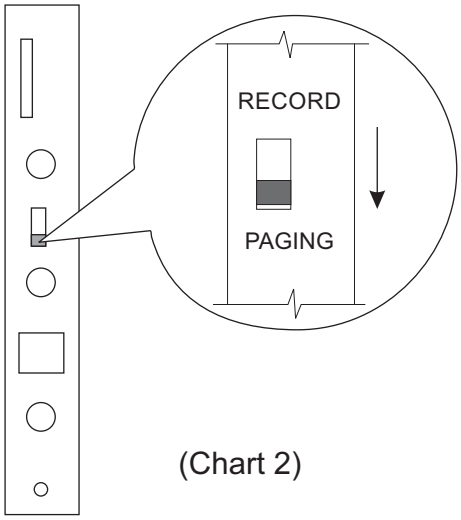
OGM 3: "We are sorry. The line is no answer, you could dial other extension number, if you want to call the operator, press 0 "

Description: The unit will play an out going message in the case of desired extension is no answer after the caller dial the extension number within a certain period. If the external caller does not enter any other correct extension number within a certain period, then the call will be released.

Please refer to the schematic of Audio Board below:



(Chart 1)



(Chart 2)

* There is has Record switch on the audio board, you must to turn the switch to RECORD before you want to record outgoing message.(Chart 1)
Please to turn the switch to PAGING after recording has been finished (Chart 2).

* "DU" is heard at the beginning of the recording and another "DU" to end of the recording.

* There is no limit on the number of times a message can be recorded. New message overwrite old messages.

4.7.5 PLAY THE OUT GOING MESSAGE

Format: *** 2 3 N #**

N = 1 = Play OGM 1

N = 2 = Play OGM 2

N = 3 = Play OGM 3.

Description: Allows to listen to the Out Going Message (OGM) recording and to test the quality of the telephone.

4.7.6 PLAY THE MUSIC ON HOLD

Format *** 2 4 #**

Description: Allows to listen to the Music On Hold melody.

Pick up 801(unlock) Input * 2 4 # Du Hang up

4.8 CALLER ID MODE ASSIGNMENT

Format: *** 27 n #**

n=0 = FSK

n=1= DTMF

Description: Enable to assign Caller ID mode according to need.

Example: Assign DTMF mode for external line.

Pick up 801 Input * 2 7 1# Du Hang up

The Caller ID signal is conveyed between the first ringing and second ringing, to avoid cause in-complete number or in-visible, we had better answer the call after the second ringing.

4. 9 CALL RESTRICTION-CLASS ASSIGNMENT

4.9.1 CLASS ASSIGNMENT FOR SPECIFIC EXTENSION

Format: *** 5 1 abc n #**

abc = Extension number;

n = 1 = No any restriction;

n = 2 = Restrict to dial International call;

n = 3 = Restrict to dial numbers with prefix digits in Group A, but permit to dial Long-distance call;

n = 4 = Restrict to dial Long-distance call;

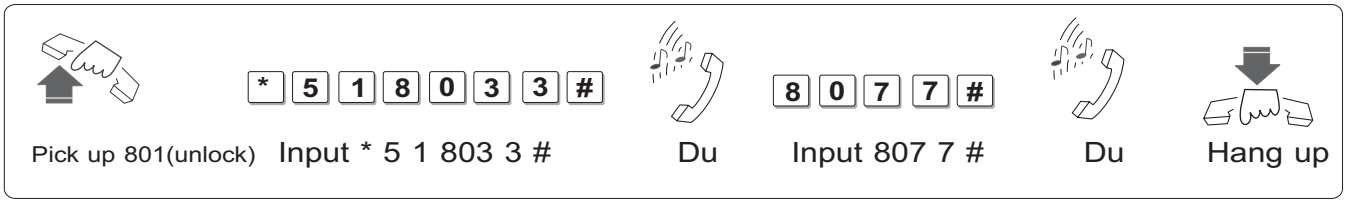
n = 5 = Restrict to dial numbers with prefix digits in Group B, and permit to dial Local call only;

n = 6 = Permit to dial Internal call only

n = 7 = Permit to dial Authorized number only

Description: Assigns the outgoing call right for extension.

Example: Assign extension 803 to class 3, and extension 807 to class 7.



4.9.2 CLASS ASSIGNMENT FOR ALL EXTENSIONS

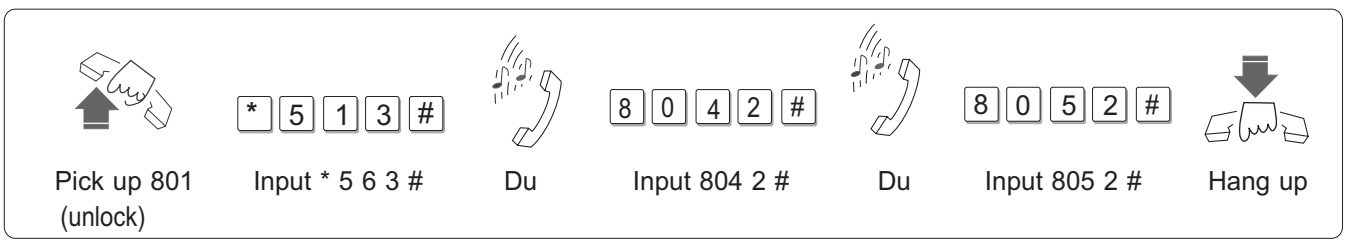
Format: *** 5 1n #**

n = Class;

Description: Assigns the outgoing call right for all extensions.

Example: Assign Ext.804 and 805 to class 2 (n=2), and all other extensions to class 3 (n=3)

To save time, the user can set all the extensions to class 3 (n=3) first, then assign extension 804 and 805 to class 2 (n=2)



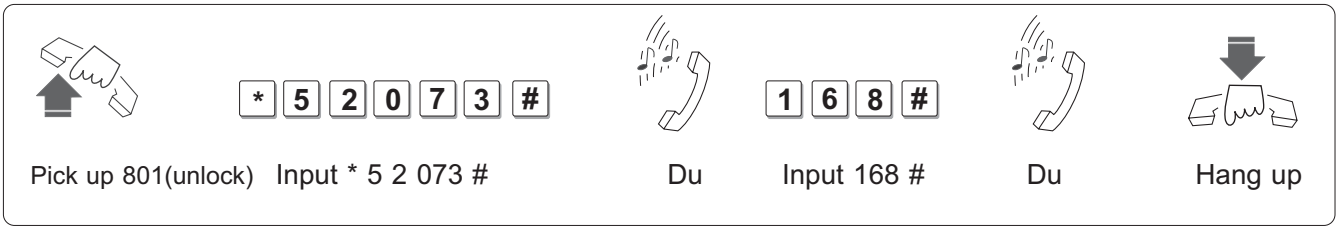
4.10 RESTRICTION GROUP A ASSIGNMENT

Format: *** 5 2 abcd #**

abcd = Prefix of number to be restricted

Description: Assigns all the numbers that with these prefix-digits are restrict to dial.

Example: Assign extensions are restrict to dial long-distance call number with prefix-digits 073 and local call number with prefix-digits 168 that in class 3. (N=3)



* The restricted prefix can have a maximum of 4 digits;

* A maximum of 10 groups of restricted prefixes can be assigned to group A;

* This setting is only available for class 3 extensions.

4.10.1 RESTRICTION GROUP A ASSIGNMENT CLEAR

Format: *** 5 2 #**

Description: The user should use this format to clear the previous restricted prefix setting of group A.

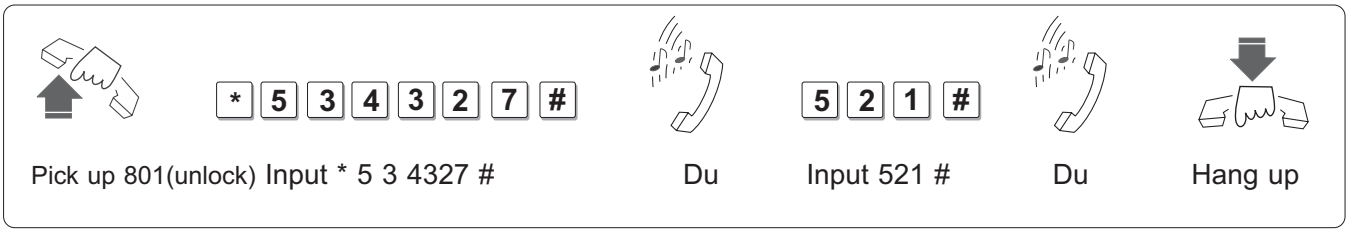
4.10.2 RESTRICTION GROUP B FOR LOCAL CALL ASSIGNMENT

Format: *** 5 3 abcd #**

abcd = Prefix of number to be restricted;

Description: Restricts to dial certain Local Call numbers.

Example: Restriction to dial certain Local Call number with prefix-digits 4327 and 521 that in class 5. (N=5)



* The restricted prefix can have a maximum of 4 digits;

* A maximum of 10 groups of restricted prefixes can be assigned to group B

* This setting is only available for class 5 extensions.

4.10.3 RESTRICTION GROUP B FOR LOCAL CALL ASSIGNMENT CLEAR

Format: *** 5 3 #**

Description: The user should use this format to clear the previous restricted prefix setting of group B.

4.10.4 AUTHORIZED DIALING NUMBER ASSIGNMENT

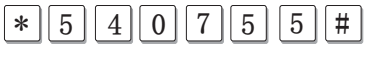
Format: *** 5 4 abcd #**

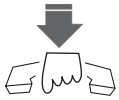
abcd = Authorized prefix number.

maximum have FOUR digits for Long distance call,THREE digits for Local call;

Description: Permit extensions to dial the numbers with these authorized prefix-digits only,

Example: Permit extension to dial authorized numbers starting with prefix "0755" or "200" that in class 7 only. (N =7)





Pick up 801(unlock) Input * 5 4 0755 # Beep Input 200 # Beep Hang up

4.10.5 AUTHORIZED DIALING NUMBER ASSIGNMENT CLEAR

Format: *** 5 4 #**

Description: To clear Authorized Prefix-Digits by this programming;

* The authorized prefix can have a maximum of 4 digits for long distance call, and maximum of 3 digits for local call;

* A maximum of 10 groups of authorized prefixes can be assigned.

* This setting is only available for class 7 extensions.

4.11 LIMITED CALL DURATION OF EXTERNAL CALL

4.11.1 LIMITED CALL DURATION OF SPECIFIC EXTENSION

Format: *** 9 1 abc mn #**

abc = Extension number;

mn = Limited Call duration that can be set from 1 minute to 99 minutes

Description: The system disconnects outgoing calls when the set time expires.

Example: Assigns Ext 805 call duration to 15 minutes;

Pick up 801; Input * 9 1 805 15 # Du Hang up

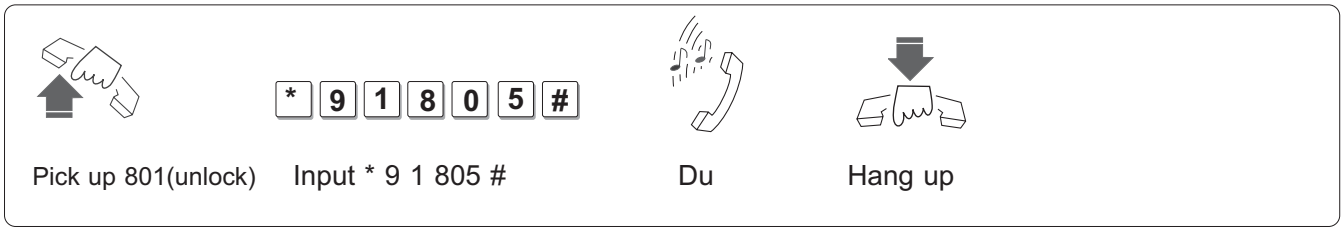
4.11.2 LIMITED CALL DURATION OF SPECIFIC EXTENSION CLEAR

Format: *** 9 1 abc #**

abc = Extension number,

Description: Permits the user to make calls without a time limit.

Example: Clear the limited call duration for Ext.805.



4.11.3 LIMITED CALL DURATION FOR ALL EXTENSIONS

Format: *** 9 2 mn #**

Description: Assigns same limited call duration for all extensions;

4.11.4 LIMITED CALL DURATION FOR ALL EXTENSIONS CLEAR

Format: *** 9 1 #**

Description: To clear limited call duration for all extensions;

The actual limited call duration has about 20seconds discrepancy from the duration what you have been set, in order to counteract the dial time;

4.12 MONITOR RECORDING ASSIGNMENT

4.12.1 AUTO MONITOR RECORD FOR SPECIFIC EXTENSION

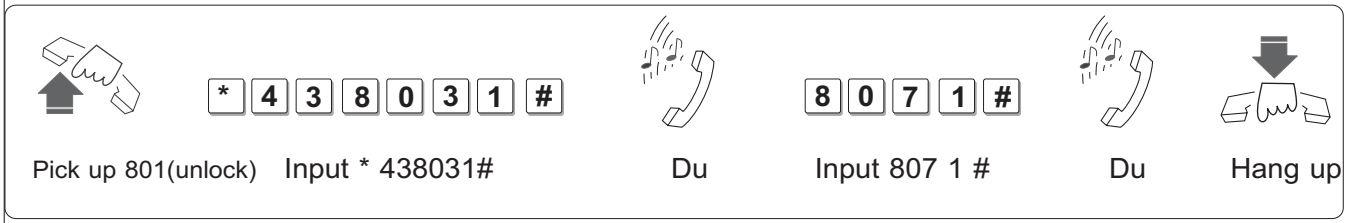
Format: *** 4 3 abc n #**

abc = Extension number;

n = 0 = Turn OFF the monitor recording; n = 1 = Turn ON the monitor recording;

Description: You can connect Telephone Recorder with our PABX. The Voice Recorder will be auto start to record once the desired extension is picked up and will be stop recording till extension complete conversation;

Example: Assign extension 803 and 807 to be monitor recorded.



* A maximum of 15 extensions can be assigned to be monitor recorded;

* When Ext.803 is under monitor recording, mean-while Ext. 807 is pick up, Ext. 807 will not start to be recorded until Ext. 803 is complete conversation. Only one extension is allows be monitor record at the same time;

4.12.2 CLEAR MONITOR RECORD FOR ALL EXTENSIONS

Format: * 4 3 #

Description: To clear monitor record for all extensions.

4.12.3 AUTO MONITOR RECORD FOR SPECIFIC CO LINE

Format: *** 4 4 ab n #**

ab = CO Line port number (01 ~ 08)

n= 0 = Turn OFF the monitor record; n =1 = Turn ON the monitor record

Example: Assign CO line 3 and CO line 8 to be monitor recorded;

4.12. 4 CLEAR MONITOR RECORDING FOR ALL CO LINES

Format: *** 4 4 #**

Description: To clear monitor record for all CO Lines;

4.13 EXTENSION NUMBER ASSIGNMENT

4.13.1 CHANGE EXTENSION NUMBER

Format: * 7 abc ABC #

abc = Previous extension number (801--928);

ABC = New extension number that you want to change to be(100--999);

Description: Allows the user to change the number of extensions;

Example: Change extension number "803" to "333", and "904" to "128"

4.13.2 RESTORE THE DEFAULT EXTENSION NUMBERS

Format: *** 7 000 #**

Description: We suggest to use this format to restore all extension numbers to default mode before to change the most of extension numbers to avoid reduplicate number.

4.14 HOOK-SWITCH FLASH TIME RANGE SELECTION

Format: *** 8 2 m #**

m = flash time class

m =1 = 750ms (The default mode is 750ms) m = 2 = 1000ms

m = 3 = 1200ms m = 4 = 1500ms m = 5 = 2000ms

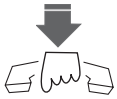
Description: Sets the Hook Switch flash time range sent from an extension to the system.

Example: Assign flash time to 1000ms.

Pick up 801(unlock)

Input * 8 2 2 #

Du


Hang up

4.15 SYSTEM DATA DEFAULT SETTING

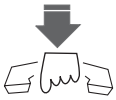
Format: *** 6 000 #**

Description: This will re-initialize the system-programmed, if all the programmed data is cleared, the system will be reset, using the default settings.

Pick up 801(unlock)

Input * 6 000 #

Du


Hang up

This program will not restore default extension number, and do not change the CO line connection assignment.

DEFAULT VALUES

Attendant Mode ---------- Operator Attendant

Ringing Extension ---------- 801 to 804

CO Line connection ---------- 1 to 8

Extension Class ---------- n = 2

Extension numbers ---------- 801 to 928

Outward Way ---------- Dial 0

Delay Outgoing Duration -------- 5 seconds

Flash Time ---------- 750ms

4.16 EXTERNAL DIALING MODE ASSIGNMENT

4.16.1 EXTERNAL DIALING MODE ASSIGNMENT

Format: *** 8 abc n #**

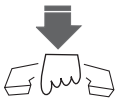
abc = Extension number;

n = 0 = access to CO line by dial 0; (Default mode is n = 0)

n =1 = direct access to CO line

Description: The extension can be programmed to have access to the external CO line by dial 0 first (n=0) or to have direct access to external CO line (n =1)

Example: Assign extension 803 to have direct access to the external line.



Pick up 801(unlock) Input * 8 803 1 # Du Hang up

Format: *** abc**

abc = extension number

Description: The user should dial * before desired extension number to make internal call when extension is in Direct External Dial Mode;

4.16.2 DIRECT EXTERNAL DIAL MODE CLEAR

Format: *** 8 000 #**

Description: The extension is programmed to access the external CO line by dial 0 first.

Pick up 801 (unlock) Input * 8 000 # Du Hang up

5 OPERATING INSTRUCTION

5.1 EXTERNAL CALL

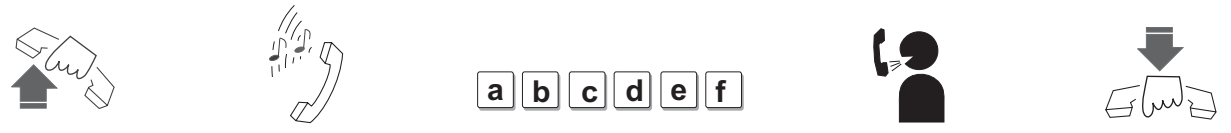
An extension can be in two different modes.

When in Direct External Dial mode, the extension is connected to free external line directly.

When in Non Direct Dial mode, the extension can get an external line by dial 0.

5.1.1 DIRECT EXTERNAL DIALING

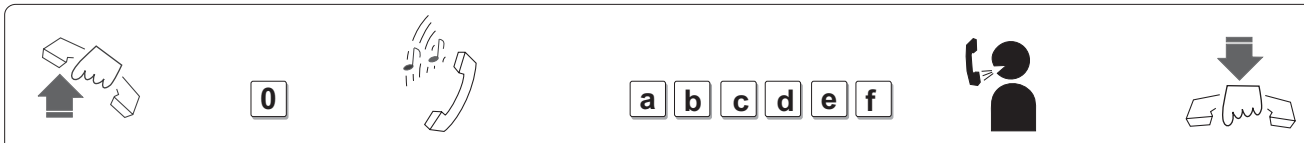
When in Direct External Dial mode, the extension will hear external dial tone after lifting the receiver. The external number can be dialed directly now. The user can press the REDIAL button to redial the last number dialed. You will hear internal dial tone if all CO lines are busy, you can make an internal call only by input * abc.



Pick up | Listening dial tone | Input CO line number | Talking with CO line | Hang up

5.1.2 MAKE AN EXTERNAL CALL BY DIAL 0

Lift receiver to get internal dial tone. Dial 0 within a short period to get external dial tone, then dial the desired external number.



Pick up | Press 0 | Listening dial tone | Input CO line number | Talking with CO line | Hang up

5.1.3 OUTGOING BY PREFERRED LINE

Format: **# + n**

n = CO line port number (01~08)

Description: A proprietary telephone user can select a desired CO line preference to make external calls.

Example: To make an external call via CO3, lift the receiver to dial # 3 in a short period. If busy tone is heard, that informs you external CO 3 is busy.

5. 2 INTERNAL CALL

5.2.1 UNDER DIRECT EXTERNAL DIALING MODE

Format: *** + abc**

abc = extension number

Description: You need to dial * to get internal dial tone before dial the desired EXT.number;

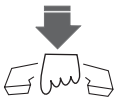
Example: To make an internal call to Ext.807, Ext.805 picks up the telephone to dial * 807 within a short period.

Pick up 805(unlock)

Listening Dial Tone

Input * 807

Internal talking


Hang up

5.2.2 UNDER NON-DIRECT EXTERNAL DIALING MODE

Format: **abc**

abc = extension number

Description: An extension can make an internal call to another extension by lifting the receiver and dial the number of the desired extension within a short period.

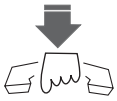
Example: To make an internal call to Ext.807, Ext.805 picks up the telephone to dial 807.

Pick up 805 (unlock)

Listening Dial Tone

Input 807

Internal talking


Hang up

The ringing of an Internal call is different from the ringing of an external call.

5. 3 RECEIVING AN EXTERNAL CALL FROM THE CO LINE

5.3.1 OPERATOR ATTENDANT MODE

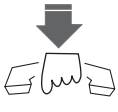
When an external call from the external CO line is received; assigned extensions will ring. Lift handset of any ringing extension to answer the call. Calls can also be answered from non-ringing extensions by using the Call Pick Up feature.

If necessary, the extension can transfer the call to another extension;

Ringing

Pick up

Talking with CO line


Hang up

5.3.2 AUTO-ATTENDANT MODE

When an external call has been received from the external CO line; the unit will answer the call and play an Out Going Message. The calling party has the option to dial the number of the internal extension directly e.g.803 or dial 0 for the operator. If the desired extension does not answer within a short period, the line will be auto disconnected; When external caller dial "0", the ringing Ext.802 will ring, the system will auto look for next free extension start from Ext.803 if Ext.802 is busy

5. 4 CALL PICK UP

Format: **# 0**

Description: Allows a user of a non-ringing extension to answer a call that is ringing on another extension

Pick up

Listening dial tone

Input # 0

Answer CO line by non-ring extension

5. 5 TRANSFER AN EXTERNAL CALL TO ANOTHER EXTENSION

Format: **Hook Switch + abc**

abc = desired extension number

Description: Allows an extension to transfer a received external call to another extension;

Example: Ext.805 receives an external call. To transfer this call to Ext 807, Ext 805 must tap the hook-switch to get internal dial tone, then dial 807. During the transfer, the external caller is in music on hold. When Ext.807 lifts the receiver, the external caller is transferred, Music on Hold stops and the conversation can resume.

EXT.805 is talking with CO line

Pat Hook-switch

Listening Dial Tone

Input 807

There are 4 different cases when A is transfers an External call to B:

a) Ext.A doesn't hang up, Ext. B lifts the handset
Communication between A and B is established. The external caller is put on hold with music. Whoever hangs up (A or B), the system will transfer the external call to the other.

b) Ext.A doesn't hang up, Ext.B doesn't answer within a certain period.
Ext. A will be reconnected to the external caller and extension B will stop ringing,

c) Ext. A hangs up and Ext.B answers external caller within a certain period;

d) Ext. A hangs up, but Ext. B doesn't answer the external call within a certain period. The external caller will be transferred back to Ext. A. If Ext A does not answer the call within a certain period or it is busy, then the external call will be lost.

* The flash time is 100ms to 2000ms for tapping the Hook Switch. The user can press the FLASH button instead of tapping the Hook Switch.
* After tap the Hook Switch and hear the internal dial tone, Ext.A should dial the number of Ext.B within a short period, otherwise, extension A will be reconnect to the CO line.
* Ext.A will reconnect to CO line after three times busy tone if Ext. B is busy.

5.6 INTERNAL CALL TRANSFER (EXT.TO EXT.)

Format: **Hook-switch + abc**

abc = desired extension number

Description: Allows to transfer internal calls from one extension to another extension;

Example: Ext.817 is talking with internal operator, and the operator can transfer the call to Ext.805 by tap the hook switch and input 805.

Ext.817 is talking With internal operator | Tap hook-switch (internal operator) | Listening dial tone | Input 805

Extension C is call to internal operator extension A, but A wants to transfer the call of extension C to extension B.

There are have four cases when Ext.A is transferring the call to Ext.B

a) Ext.A doesn't hang up, Ext.B answers.
Ext. A will build internal conversation with Ext.B, while C is listening dial tone,whoever (A or B) is hangs up, the other party will connect with C;

b) Ext. A doesn't hang up, Ext.B doesn't answer within a certain period
Ext. A will be reconnect with Ext.C, and B will stop ringing

c) Ext. A is hangs up, Ext.B is lifts handset to talk with Ext. C;

d) Ext. A is hangs up, Ext. B doesn't answer within a certain period
Ext. C will listen busy tone, and B will stop ringing

5.7 PARTY CONFERENCE (BETWEEN 2 EXTS. AND 1 CO LINE)

Format: **Hook-switch + * + abc**

abc = desired extension number

Description: Allows an extension on an external call to add another extension for a 3 Party conference call;

Example: Extension 805 is talking with CO line, and 805 wants to transfer external call to 807 to build three parties conference

There are have two cases when Ext.A is transferring CO line call to Ext. B:

* Ext. A does not hang up, Ext.B answer the call,
  Ext.A, Ext. B and CO line will set up 3-parties conference. Whoever (A or B) is hangs up, the other party will be keep connecting with CO Line.
* Ext. A does not hang up. Ext.B does not answer within a certain period,
  A will reconnect with CO line, while B will stop ringing.

5. 8 MAKE AN EXTERNAL CALL WITH HELP OF ASSISTANT

Format: **Hook-Switch + abc**

abc = desired extension number

Description: The assistant can initiate an external call and then transfer the call to another extension.

Example: The operator Ext. 805 initiates an external call, then transfers the call to Ext.801

* Flash time of hook-switch is from 100msto 2000ms(4.14),
* After tapping the Hook Switch and hearing the internal dial tone, the operator should dial the extension number within a short period, otherwise, the operator will be reconnect to the external CO line.
* The operator is also can help to dial internal call, then transfer to another extension. The transfer way is same as help to transfer external call (tap hook switch +abc)

5.9 PRIORITY ACCESS

Format: **# 9 1 mn**

mn = CO line port number (01~08)

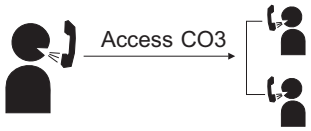
Description: Allows user of Ext.801 to access a certain CO line even though other people are using that CO line. Only extension 801 has authority of priority access.

Example; Ext 801access CO line 3 even if CO 3 is busy.

Pick up 801

Listening Dial Tone

Input # 91 3



CO line join in(3parties)

5.10 CALL FORWARDING

Format: **# 9 2 abc**

abc = extension number of destination

Description: Allows an extension user auto to transfer incoming calls to another extension.

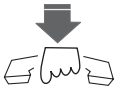
Example: The user of Ext.805 has to go to another office (extension number is 807) for some business. He activate Call Forwarding on his EXT. so that all calls to Ext.805 are transferred to Ext.807 automatically.

Pick up805

Listen Dial Tone

Input # 92 807

Du


Hang up

To clear call forwarding assignment, the user must lift the receiver of extension 805, and then replace it.

Nothing can be heard on assigned extension and can not carry on any other operating until the assignment is cleared.

5.11 CO LINE APPOINTMENT

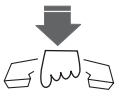
Format: **# 96 4**

Description: After you input this format on your extension, the extension will ring to inform you when there is has idle external CO line is available.

Pick up extension;

Input # 964

Du


Hang up

* The extension can work normally even has been assigned CO Line Appointment.
* The extension will has one ring once there is has free CO line. If you don't make outgoing call before this CO line is occupied by other extensions, the setting will be no effect, and the system will not send remind ring even CO line is free again.

5. 12 PAGING

Allows an extension user to make a voice announcement to several people at the same time. The message is announced over the built-in speakers of proprietary telephones and / or the external pager. The paged person can answer the page (Answering a Page) from his extension within the system. The following types are available.

Group: Makes a voice announcement to the maximum of nine designated extension groups over the built-in speakers of proprietary telephones. An extension group is assigned in program of 5.12.1

External: Makes a voice announcement over the external pager.

Listen Broadcast: Any extensions can listen broadcast over the telephone.

There are have audio-port of INPUT and OUTPUT in the Audio-Board, The signal of external audio-devices such as Microphone, Radio and CD should be transmit to INPUT port. You can announce from your extension via OUTPUT port to external pager.

5.12.1 EXTENSION GROUP ASSIGNMENT

Format: **# 93 abc**

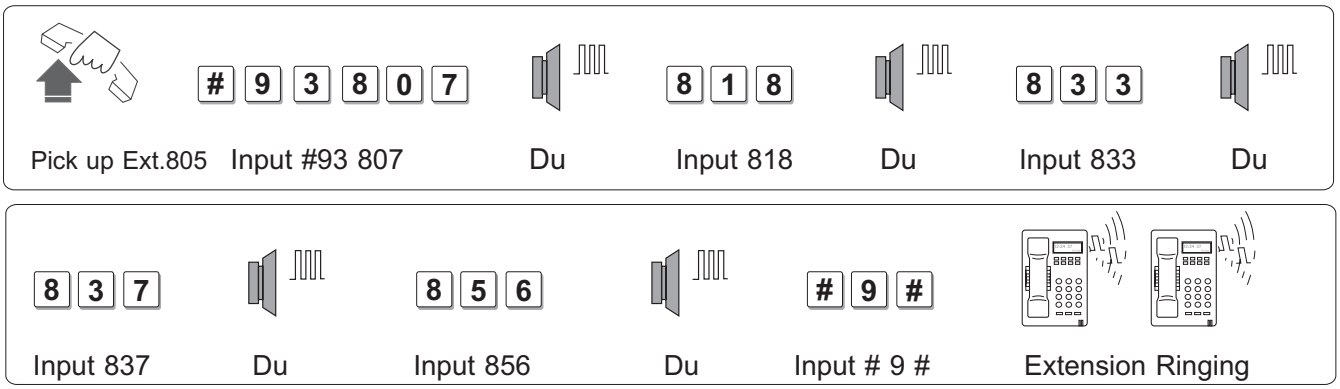
abc = extension number of conferee

Description: You can convene maximum of nine extension users as conferee to set up internal telephone conference by this format.

Format: **# 9 #**

Description: You can convene conferees together to build internal telephone conference, the desired extensions will ring after you input this format. Group Conference it is a high-effective news releasing way.

Example: EXT 805 wants to convene Ext.807, 818,833,837 and 856.



* You can talk with the conferee after he lifts his handset;

* Any one of conferees retreat from conference will has no influence to remainders;

5.12.2 LISTEN BROADCASTING BY EXTENSION

Format: **# 96 1**

Description: You can listen in sounds by input this format on any extensions when there are has external audio signal inputting through "INPUT" port;

Any extension can listen broadcast by this format, allow several extensions are listening at the same time. The broadcast will stop playing once has incoming call, and you can answer the call directly. Ensure there has external audio-signal inputting and the switch of PAGING should be turn ON;

5.12.3 EXTENSION BROADCASTING (CONFERENCE)

Format: **# 96 2**

Description: You can broadcast from any extension to external audio-emplifier;

Pick up extension Input # 962 Your speech is broadcasting.

Any extension can broadcast, but allow only one extension is broadcasting at the same time; Require to equip with external pager and the switch should be turn to Audio INPUT port.

5.12.4 OUTSIDE CALLER LOOK FOR SOMEBODY BY BROADCAST

Format: **Hook-switch + # 01**

Description: After external line connect with extension, extension can help external caller look for somebody by tap hook-switch and input #01 to broadcast, and CO line is on holding music.

The extension user can tap the hook-switch again to reconnect with CO line after broadcast is finished, he can transfer external call to other extensions normally.

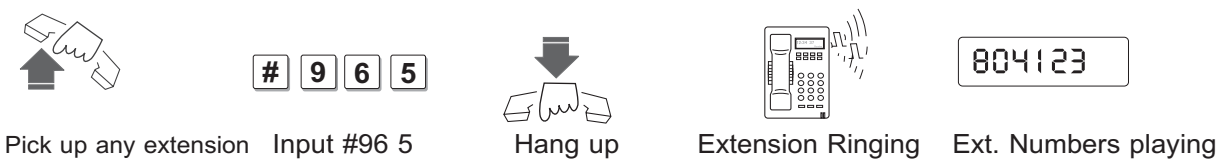
Extension is talking with CO line Tap hook-switch Input #01 Extension is broadcasting

5.13 SELF-DETECT OF RINGING AND EXTENSION NUMBER

Format: **# 96 5**

Description: You can input #965 and then hang up on any extension, its default and current extension number will play in Caller ID telephone after one ring;

Example, default extension number is 804, current extension number is 123, you can see there is play "804123"

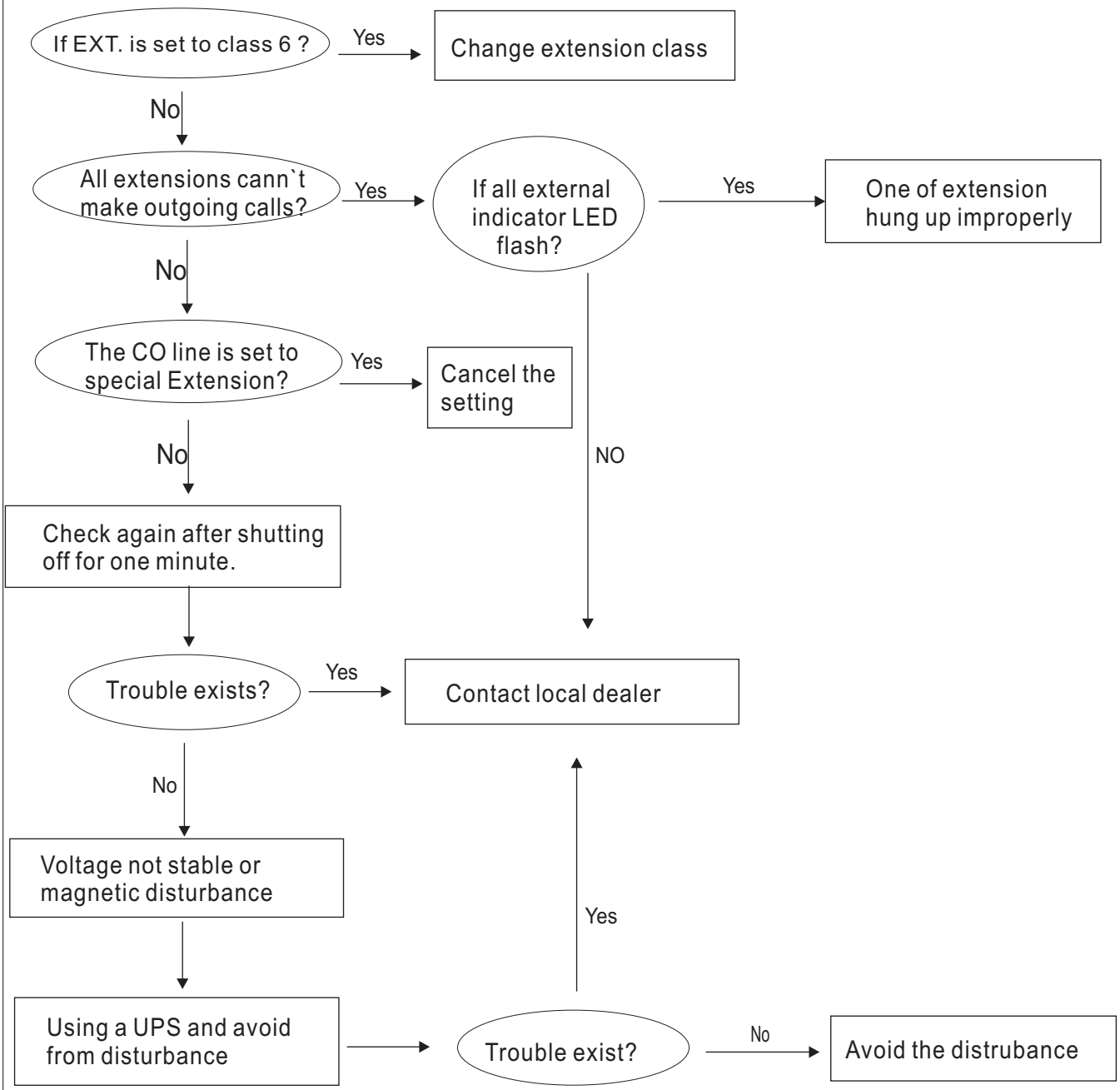


Pick up any extension Input #96 5 Hang up Extension Ringing Ext. Numbers playing

6 MAINTENANCE & TROUBLE SHOOTING

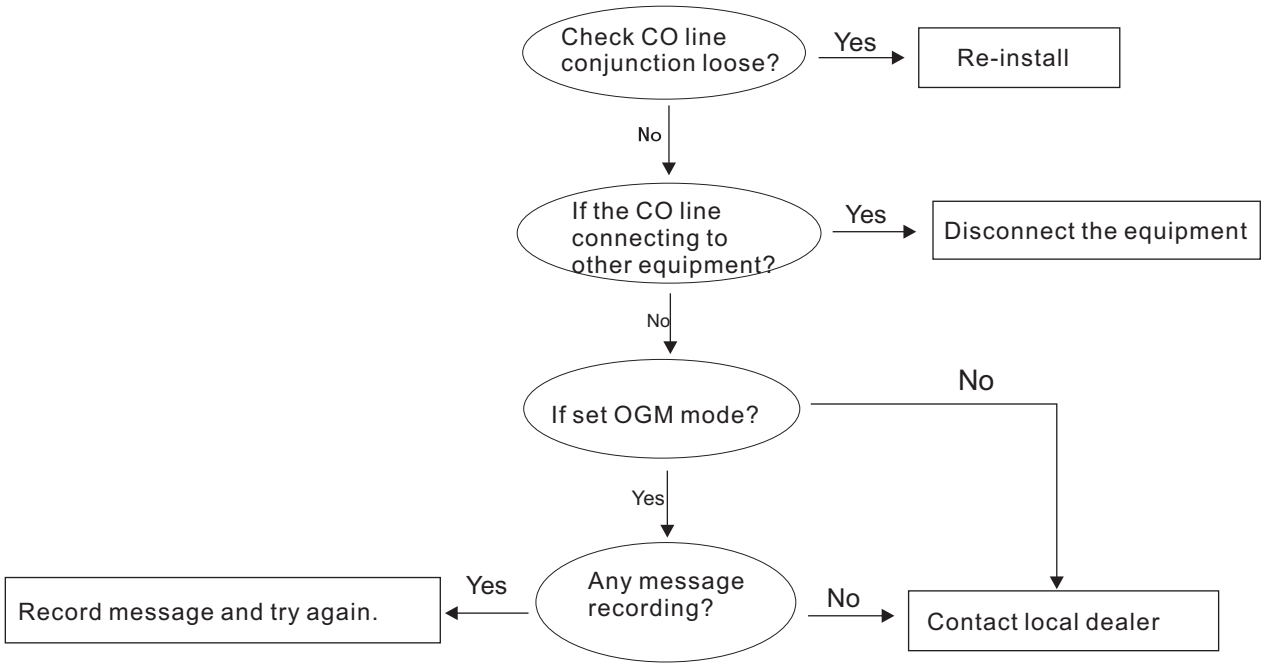
6.1 OUTGOING CALLS CAN`T BE MADE

* Programmed to be in no CO line mode;
* Call restriction class is 6;
* CO line is set to special Extension;
* Extension hung up improperly;
* CPU and internal data is disorder caused by unstable power.



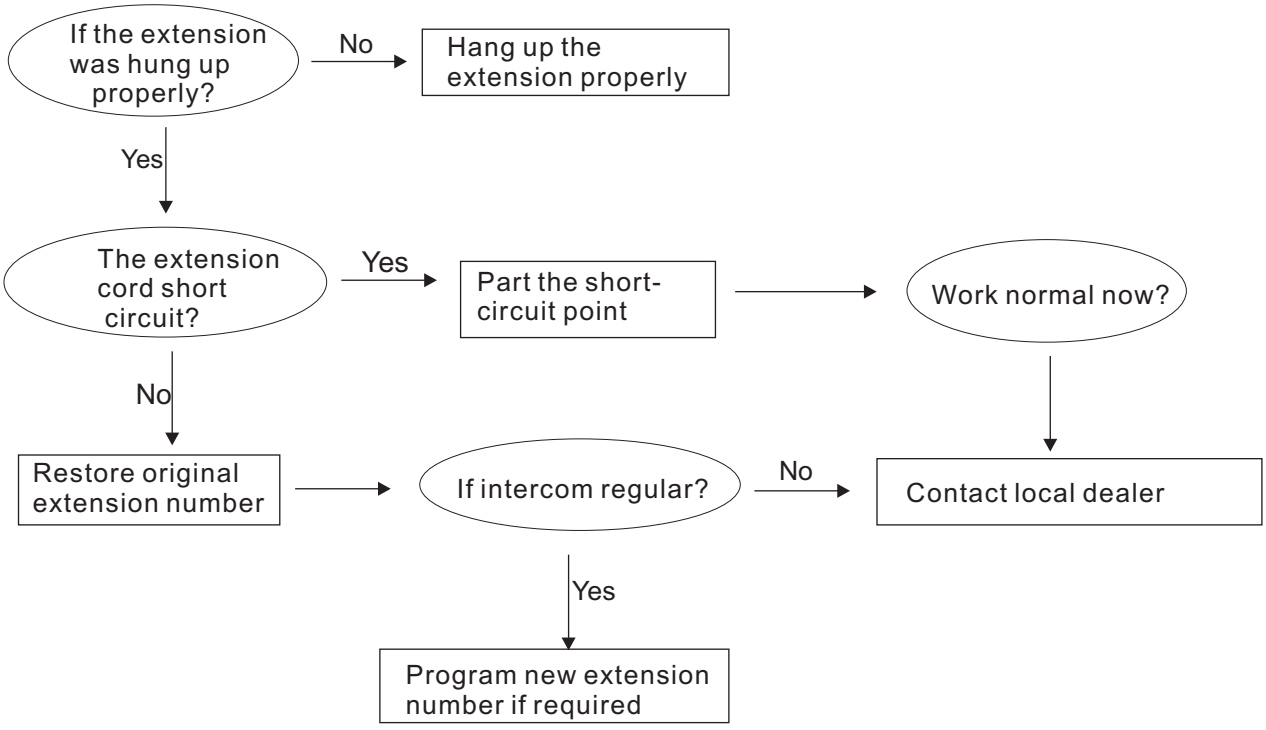
6.2 EXTERNAL CALLS CAN`T BE RECEIVED

* The connection of CO line loose;
* CO line is connected to other equipment;
* No message recording for Auto Attendant mode.



6.3 INTERCOM CAN`T BE MADE

* Extension hung up improperly;
* Extension number is wrong.



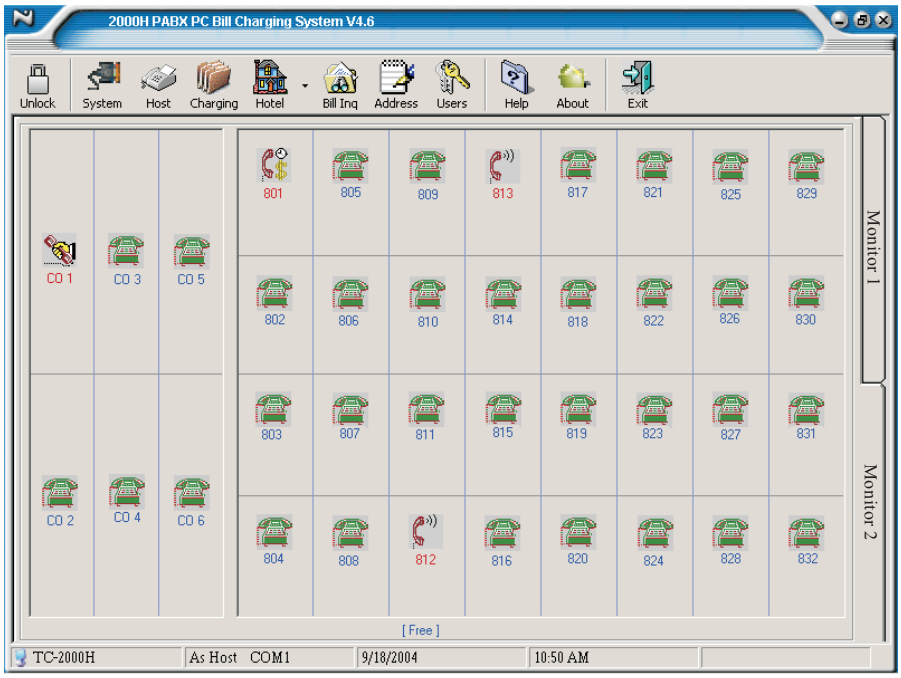
7 APPENDIX

7.1 PC BILL CHARGING SYSTEM INSTRUCTION

7.1.1 .PC BILL CHARGING SYSTEM INSTALLATION

Description: Install supplied CD ROM, open "PC Bill Charging System", click "SETUP.EXE" to start installation, and operate according to guidance; Click "Start" to enter PC Bill Charging system by click "PC Bill Charging System"

To see actual working state of extensions by click "Actual Monitor 2" ;

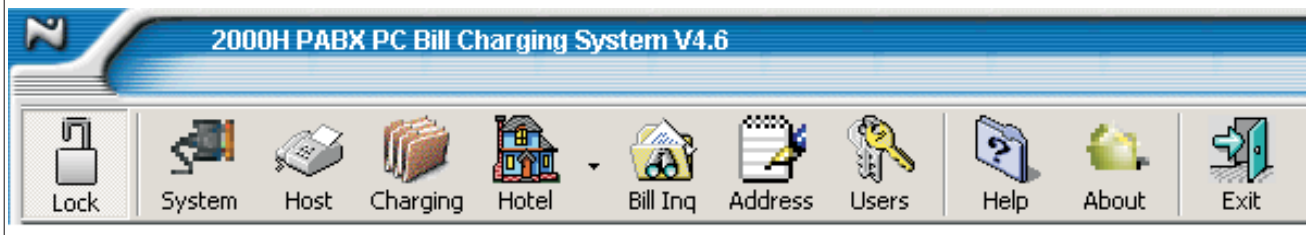


(Chart 1)

7.1.2.SYSTEM SETTING

Description: Click "Unlock" menu, pop out "Inspection Authority" that is for select the user, default password of Operator is "1234", and "4321" is for Administrator; click "OK" after input password to enter system programming.

There are have following menus:



(Chart 2)

A) HOST SETTING: To assign basic functions of PABX. These functions also can be programmed by telephone extension 801. If you press * 034567# on extension 801 will pop out "System Actual Work State" in monitor.

B) CHARGING PARAMETERS SETTING: To assign parameters relate with call fee, such as Charging Rate /Mode, Delay Duration, etc.

C) AUXILIARY SETTING: Suck as "COM setting", "Picture setting", etc;

D) HOTEL MANAGEMENT: To get a call bill of customer;

E) BILL INQUIRE: To get a detail bill of external outgoing call or Incoming call;

F) ADDRESS BOOK: For store name of customer, telephone number and address;

G) USER: For change the user's password;

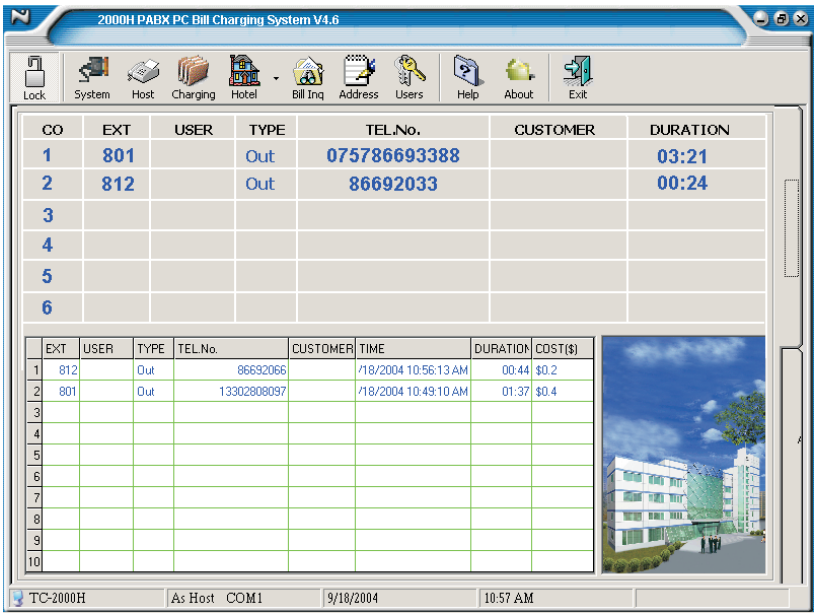
H) HELP: The brief introduction of "PC Bill Charging System";

I) ABOUT: The version of system software;

7.1.3 CO LINE MONITOR (OUTGOING / INCOMING)

Description: You can know the actual CO line working state from the monitor.

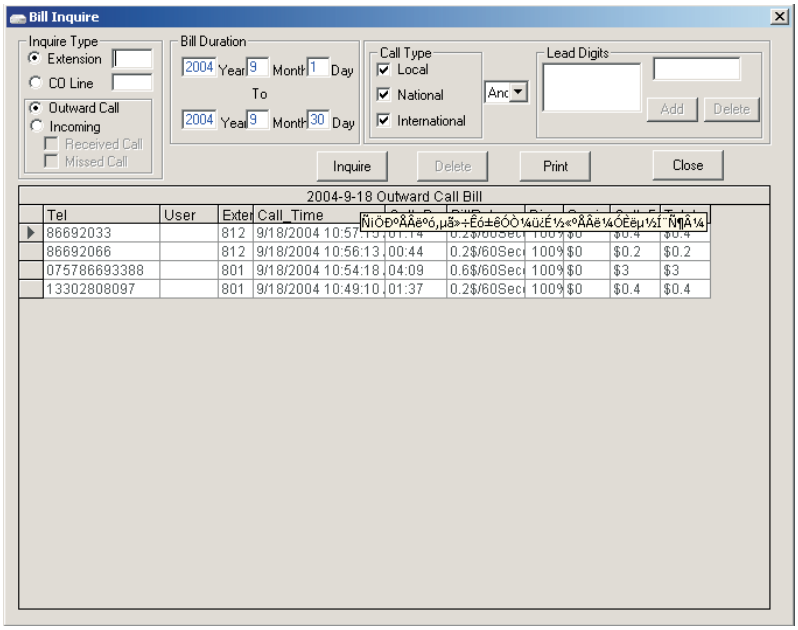
In chart 3, EXT. 801 is making external call via CO line 1, and EXT.812 is via CO line 2. The CO line number is showing in Number list.



(Chart 3)

7.1.4 BILL INQUIRY

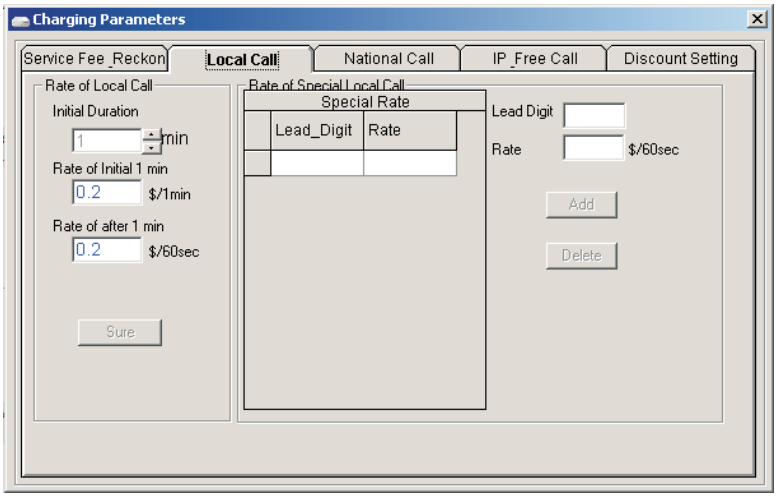
Description: Use it to get required call bill.



(Chart 4)

7.1.5 CHARGING PARAMETERS SETTING

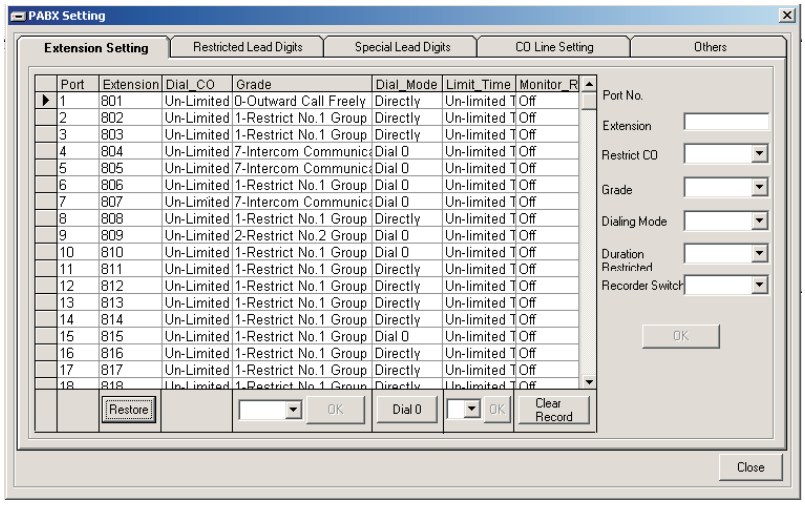
Description: Click "Charging" to change "system-charging parameters"; the default mode is "Delay Charging", a few discrepancies between PC output bill and real cost. "Reverse Charging" mode can get nicety bill, you need to apply Reverse Charging mode service from local Telecom Office first.



(Chart 5)

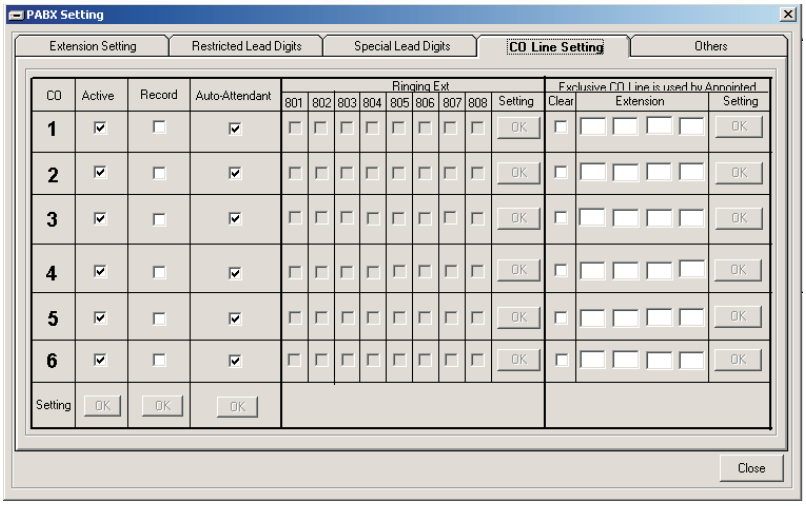
7.1.6 HOST SETTING

Description: Click "Host", the data of host will be auto transferred to PC (Chart 6 and chart 7)



(Chart 6)

Description: All data of host are visible from monitor, and user can change the setting.



(Chart 7)

8 WARRANTY

WE WARRANT YOUR PRODUCT TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF PURCHASING.

THIS WARRANTY APPLIES ONLY TO THE ORIGINAL CONSUMER PURCHASER AND ONLY TO PRODUCTS EMPLOYED IN NORMAL USE AND SERVICE.
IF THE UNIT IS FOUND TO BE DEFECTIVE, OUR DEALER IS ONLY OBLIGATION, TO REPAIR OR REPLACEMENT OF THE PRODUCT, WHICH NOT BEEN DAMAGED THROUGH MISUSE, ABUSE, ACCIDENT, MODIFICATION, ALTERATION, NEGLECT OR MISHANDLING.

THIS WARRANTY SHALL NOT APPLY TO ANY PRODUCT WHICH IS FOUND TO HAVE BEEN IMPROPERLY INSTALLED, CON-FIGURED,OR USED IN ANY WAY NOT IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED WITH THIS PRODUCT. FOR REPAIR OR REPLACEMENT, CALL FOR A RETURN AUTHORIZATION NUMBER, THEN SEND THE DEFECTIVE UNIT TO LOCAL DEALER. YOU MUST INCLUDE A LETTER WITH THE RETURN AUTHORIZATION NUMBER, DESCRIBING UNAMBIGUOUSLY THE WAY IN WHICH THE PRODUCT IS DEFECTIVE ALONG WITH A PROOF OF PURCHASE.

WE DO NOT WARRANT AND SPECIFICALLY DISCLAIMS ANY WARRANTY, WHETHER EXPRESS OR IMPLIED, OF THE FITNESS FOR A PARTICULAR PURPOSE OTHER THAN THE WARRANTY CONTAINED HEREIN. NO IMPLIED WARRANTY ON THIS PRODUCT SHALL EXTEND BEYOND THE TERM OF THIS WARRANTY UNLESS SUCH LAW OTHERWISE PROVIDES.

WE SPECIFICALLY DISCLAIMS ANY LIABILITY AND SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE, INCLUDING BUT NOT LIMITED TO DAMAGES TO ANY EQUIPMENT WITH WHICH THIS PRODUCT IS USED. NO AGENT, REPRESENTATIVE, DEALER OR EMPLOYEE HAS THE AUTHORITY TO INCREASE OR ALTER THE OBLIGATIONS OR TERMS OF THIS WARRANTY.

THIS WARRANTY IS ONLY VALID FOR MERCHANDISE PURCHASED DIRECTLY FROM OUR AGENT OR DEALER.